Although *Interface* has been available for Web access since 1996, this is the first issue formatted specifically for e-mail and Web distribution. We hope you find that *Interface Online* is a quick, easy way to receive information about CIT policies, services, and other important news.

Thank you.

April 20, 2001 [Number 218]

Interface publishes information concerning services and facilities provided by the Center for Information Technology to NIH and other government agencies. Changes in CIT policies and standards of service, as well as all significant changes made to hardware and software on various platforms at the NIH Computer Center, are announced in this publication.

You may subscribe to Interface Online by joining the Listserv list, "Interface." From the NIH Listserv Web page [http://list.nih.gov/archives/interface.html], select "Join or leave the list."

The *Interface* Web page [http://datacenter.cit.nih.gov/interface/] contains all issues since Number 189 (December 31, 1994), as well as annual indexes for years 1990 through 1997.

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Please send your comments to *Interface@nih.gov*.

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Interface is now an online journal named *Interface Online*. You can receive *Interface Online* by joining the "Interface" list at the NIH Listserv Web page [http://list.nih.gov/archives/interface.html].

Features

Features

Interface Online Arrives

Changing the Way You Get *Interface*

This is the first issue of *Interface* to be published as a Web journal—*Interface Online*—and announced to subscribers via e-mail. We anticipate that *Interface Online* will provide a quick, easy way for most CIT customers to receive information about CIT policies, services and other important news. *Interface Online* is accessible from the *Interface* Web page.

We hope you enjoy *Interface Online* and will want to continue receiving *Interface* in this manner. However, if you prefer to receive a printed copy instead, simply unsubscribe from the "Interface" Listserv list [http://list.nih.gov/archives/interface.html], and we will reinstate your hardcopy subscription.

You can also change the e-mail address using Listserv (first unsubscribe, then resubscribe with your preferred e-mail address). If you have any questions or require assistance, send mail to *Interface@nih.gov*.

More Information

Complete issues are available on the *Interface* Web page, [http://datacenter.cit.nih.gov/interface]. On this page, you will also be able to find issues and indexes from 1990, conduct a search, or print a PDF version (beginning with issue 218).

Printed copies of *Interface* are still available from the CIT publications Web page [http://publications.cit.nih.gov/]. The links differ for registered and non-registered users—choose the appropriate "General Documentation" and follow the instructions.

Features

Titan System—Free Processing Extended through May

Free computer processing on Titan has been extended through May 31, 2001. Some customers are already moving their applications to Titan. Plan your move now to avoid last minute deadlines *and* to take advantage of free computer processing.

Since data storage is currently shared between the North and Titan systems, fees for tape and disk storage will continue to be charged at North system rates until the North transition is complete.

Timeline

Designed to merge the NIH Computer Center's OS/390 North and South systems into a single "standard" environment, Titan has been a production system since January 2, 2001. Once the transition of the North system to Titan has been completed in mid-2001, the transition of the South system to Titan will begin.

Assistance

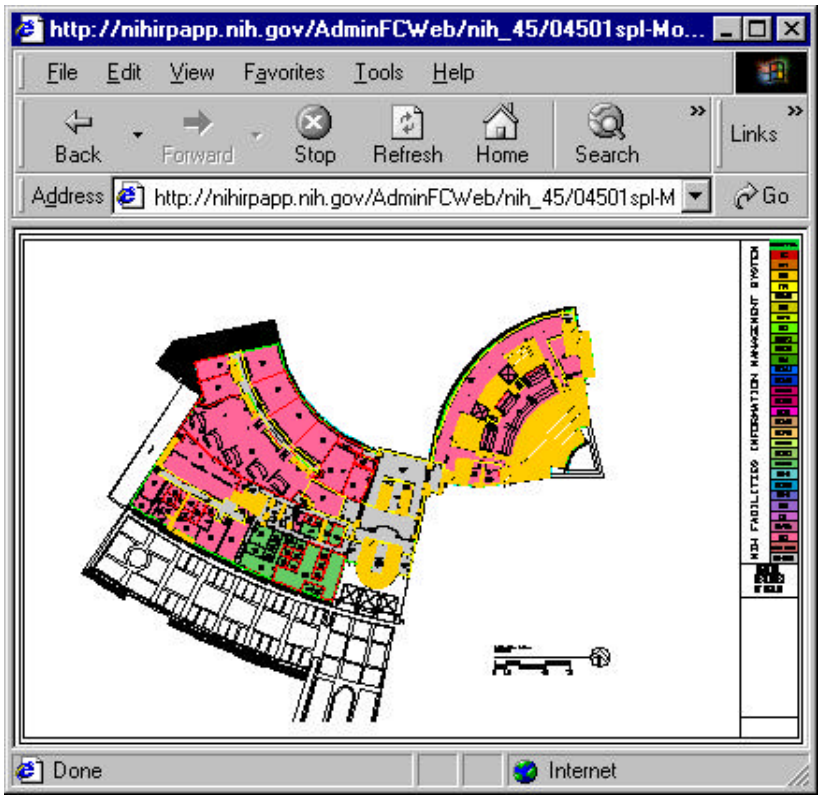
If you would like assistance moving your application to Titan, CIT staff will be glad to come and meet with your group. Please set up an appointment by contacting TASC.

Announcing a New Space Management Tool—FacilityCenter

If you would like to be able to view the floor space in your IC and pull up preformatted reports via the Web, then FacilityCenter is for you.

The NIH Office of Research Services, in partnership with CIT, is offering access to NIH posted space information from a new application called FacilityCenter (from Peregrine Systems, Inc.). FacilityCenter helps you identify and manage what space you have, as well as share the information with others in your organization.

As a "Web-subscriber"—for only $480 a year per subscription—you can have access to this posted space information. "Web-subscribers" can view, print, and download data in AutoCAD and MS Excel format.



First floor of the Natcher Building.

If you want to view, track, and manage room utilization information (e.g., tenant organization, program room use, or personnel), consider getting a "contributor" user seat. The FacilityCenter client/server "contributor" seat is available for an annual price of $1,500.

For further information, and to order your subscription, contact Nat Hargraves at *hargravn@mail.nih.gov* or call (301) 435-1678.

NIH Data Warehouse—New Reporting Tools and Improved Access to Data

The NIH Data Warehouse (DW) has added several new features for NIH users. These include reporting tools for Staff Training and Development and Government Purchase Card Reconciliation, as well as data currency information and an improved registration system. Each of these systems allows you to easily and conveniently access valuable business information at your desktop.

All DW features are easily accessible from the newly-redesigned Data Town Web pages [http://datatown.nih.gov]—along with useful links to "DW News," the ADB, and other NIH systems (e.g., HRIBS, ITAS).

New Reporting Tools

- **Staff Training and Development—New Business Area**

  The DW now contains important information from NIH Integrated Training System (NIHITS) I and NIHITS II about training courses that NIH staff have attended, or would like to attend in the future. This information can now be instantly displayed in well-designed reports, which include historical data (dating from 1992). Reports are available in the following categories:

  - training information searched by occupational series, course title, or vendor name
  - historical information for an organization code or a specific employee
  - information on the status of future training requests
  - costs associated with training recorded in NIHITS

- **Government Purchase Card Reconciliation**

  The ADB Web and the NIH Data Warehouse are now linked together so that users have the ability to move back and forth between the two systems. Government purchase card holders who keep their log in the ADB can reconcile monthly log entries with the bank transactions easily, anytime, on their personal computer. Moreover, information about the card holder, bank transaction, and purchases can all be accessed over the Web with this user-friendly graphical interface. This reporting tool includes the following reports:

- reconciliation log—usable for signature and legal hardcopy
- purchase log—available by month and date range
- details—related to a specific log purchase
- bank transactions—available by month and date range
- bank transactions—searchable, with fields similar to log items, by amount, vendor or purchase date

Since the log information is updated immediately, you can view any updates to a log item as soon as you have entered data. Since bank transactions are updated daily, purchases can accurately be matched with bank transactions. This reporting tool is also a valuable tool for reconciling monthly purchase card expenses and printing reconciliation log reports.

Data Currency—When DW Data Was Last Updated

As we all know, reports are only as good as the data being displayed. Users want to know how fresh the data is and when it was last updated. Getting this information has never been easier—a link from the DW data currency Web page shows when the data was last refreshed for each of the business areas, broken down by individual table name. Any time you want to know how current the NIH Data Warehouse data is, simply open this new report.

Registration—A Single System for DW Query and Reporting Tools

The Data Warehouse now offers a *single* Web site to register for all DW query and reporting tools. With this convenient registration system, you can copy criteria from one business area to another without having to re-enter all of the information. Also, if you need the same access as a co-worker, you can duplicate the access criteria rather than re-entering it.

When you log on, a complete record of your current registration access is displayed. This is helpful when you want to modify your registration criteria, or if you just want to view what type of access you have. Useful information links have been added:

- How to Register
- FAQ
- DW Access Policy
- Glossary of Terms
- About DW Tools

For additional information on NIH Data Warehouse features, or on future plans, check the "DW News" on the Data Town Web pages [http://datatown.nih.gov]. If you have any questions or concerns, please contact TASC.

"Ask TASC"—About Remote Access

TASC receives many calls about accessing the NIH network from off campus. Several methods of remote access are discussed below, with details on how to obtain the service and additional information. Additional details on the various options can be found on the Web [http://remoteaccess.nih.gov]. As always, you are encouraged to call TASC and discuss which option best suits your needs.

Parachute

Parachute allows authorized NIH staff off-campus to logon to the NIH network and to send e-mail, using a high-speed modem and a standard telephone line.

- **Standard Modem**

  You may use standard 33 Kb per second (Kbps) or V.90 56 Kbps modems for your connection. The technology is split-speed with 56 Kbps downstream and 33.6 Kbps upstream. For the general user checking e-mail and exchanging documents, standard modem connectivity is likely to provide sufficient access to the NIH network.

  Contact your account sponsor to request a Parachute account.

- **ISDN Digital Phone Line**

  Unlike standard phone lines, ISDN can make a fast, clean connection to the NIH network. The connection speed ranges from 64 Kb to 128 Kb. The user will need 1) to purchase an ISDN terminal adapter or

router that will act as a digital modem for connecting to Parachute and 2) to contact the telephone company for ordering installation of a residential ISDN circuit.

Contact your account sponsor to request an ISDN Parachute account. You should ensure that you have your institute or center's approval before applying for an ISDN account.

Cable Modem

The establishment of new accounts is currently suspended for high-speed cable-modem access to the NIH network through Comcast's data service (in Montgomery County, Maryland), due to changes Comcast is making in the service. CIT is working with Comcast to find a solution that will allow resumption of new accounts.

DSL Pilot Program

DSL technology can deliver upstream speeds up to 384 Kb (kilobits per second) and downstream speeds up to 1.5 Mb (megabits per second). DSL is limited by distance and is only offered in certain areas throughout the metropolitan Washington D.C. area.

This pilot program is supported by CIT but is not in full production at this time. Furthermore, it is offered through only one company, CapuNet. Be sure you telephone TASC before you sign up with a DSL provider. If you sign up with another DSL provider, your access to certain NIH services will be limited. The agreement with CapuNet ensures the customer will receive a NIH IP address allowing the user to access NIH computing resources.

Enhanced NBARS Software Will Be Available for PC Windows Users in April

The NIH Backup and Recovery Service (NBARS) is increasingly popular with PC (Windows) users for automatically backing up and retrieving data files from file server or PC. A new, enhanced version of the NBARS client software will be available for downloading from the NBARS's Web site on April 30, 2001.

The new client software will feature improvements, as well as a new name, Tivoli Storage Manager (TSM). TSM is IBM's successor to the ADSM storage management software that has been used for NBARS for over five years.

The TSM software offers several improvements, including:

- a user-friendly interface for incorporating changes to the options file
- easier installation of the scheduler service on the NT platform
- global password change for the backup client and the scheduler service (NT only)

Downloading the Client Software

Beginning April 30, go to the NBARS Web page [http://silk.nih.gov/silk/nbars], use the link to "Client Software," and follow the instructions. Documentation will be available via the Web page.

For assistance, contact your ADSM domain administrator. If you do not know your ADSM domain or you are a member of NBARS's common domain, please contact TASC.

Web Sponsor Is Bigger and Better on the South System

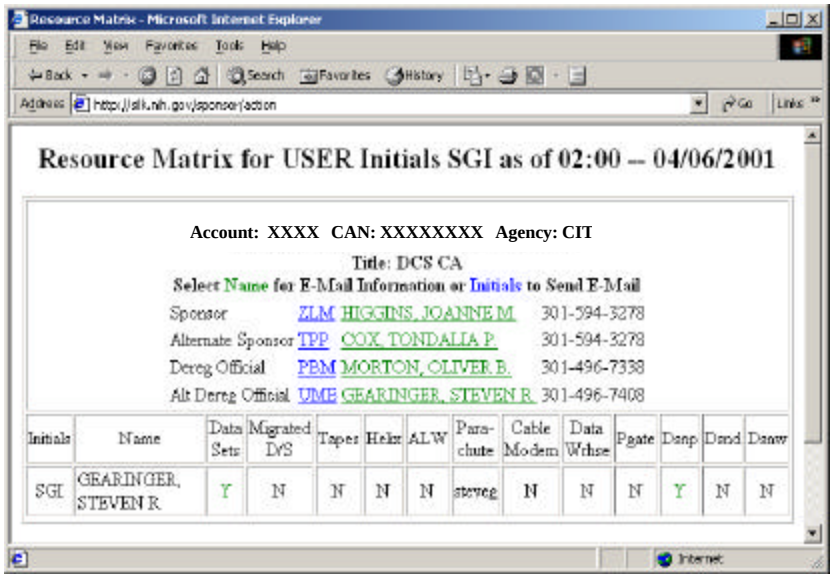
Web Sponsor—CIT's account management tool for account sponsors—has several new features. In one place, account sponsors can now do just about everything they need to manage their OS/390 South system accounts and initials, as well as Helix, ALW and Parachute IDs.

Sponsors should use Web Sponsor to change RACF passwords, add or remove a user from their accounts, as well as change customer

information and reassign initials to another account. Most actions through Web Sponsor are effective immediately.

Resource Matrix for Viewing Accounts

Web Sponsor has a new "resource matrix" that allows sponsors to view all resources associated with users. Resources can be viewed on an individual basis, or by account.



An example of the resource matrix showing an individual user.

Other New Features

Two new features allow account sponsors to scratch or rename OS/390 data sets in Web Sponsor and to delete DB2 objects. This is particularly helpful when trying to remove a user from an account. All data sets can be scratched or renamed immediately, and convenient radio buttons allow sponsors to select the data set or sets to be scratched. Web Sponsor also has a link to NIH Data Warehouse registration forms.

For questions about Web Sponsor, please call TASC.

"Off-Hours" Discount to Be Reduced for South System in FY 2002

CIT will reduce the "off-hours" processing discount for fiscal year 2002, in order to better reflect the actual costs of operation.

The discount for processing over night (5 P.M.- 7 A.M.) and weekends will be reduced from 60% to 50% starting on October 1, 2001.

New Version of QWS3270 Plus Is Now Available

The new release of QWS3270 Plus (version 3.4.6) is available at no charge to registered users of the OS/390 North and South systems. QWS3270 Plus is an application that allows a network-attached PC running Windows to connect to an IBM mainframe in full screen, 3270 mode (TN3270). CIT has recommended and distributed the software—designed to take full advantage of the point-and-click capabilities of Windows—since 1997. All three NIH Computer Center OS/390 systems (North, South and Titan) support this new version for PCs running Windows 95, 98, 2000 professional, or NT.

How to Get the New QWS3270

QWS3270 Plus is downloadable from the CIT Software Distribution Project Web page [http://sdp.cit.nih.gov/]. Click on "NIH TCP Tools," choose the appropriate OS/390 system, provide your RACFid and password and, finally, click on "QWS3270 Plus" to download the self-extracting .exe file.

Another Successful Disaster Recovery Test

CIT's disaster recovery test at the hot site on March 27, 2001, was an unqualified success for all participants. In contrast to the last hot-site test, the dedicated T1 line connecting NIHnet to the hot site in New Jersey functioned without a hitch.

On March 26th (setup day), CIT successfully restored the OS/390 North and South environments in record time, completing the restore procedures much earlier than in previous tests. CIT also successfully

restored the EOS environment and three customer databases onto one machine.

On the 27th (testing day), CIT tested the restore procedures for Titan in preparation for the upcoming November test. By then we anticipate that North system critical applications will have been moved to Titan. CIT successfully brought Titan up, encountering only minor problems, and testers were able to log on via Parachute, TCP/IP, and VTAM.

Efficient preparations on setup day allowed customers earlier access to facilities on testing day. As a result, CIT hopes in future tests to be able to allow customers access on setup day, in order to be better prepared for formal testing.

Next Test in November

CIT schedules two hot-site test events each year for critical application owners to verify their recovery procedures. The second test this year is scheduled for November 2, 2001.

If you wish to participate in the NIH Computer Center's disaster recovery program or to discuss your critical application requirements for either the OS/390 systems or Enterprise Open Systems (Unix), please call TASC and ask to speak to the disaster recovery manager.

North System—Support for Bell 208B Modems Has Been Phased Out

Support for Bell 208B modems for RJE and SNA dialup connections has been discontinued (see the announcement in the December 15, 2000, issue of *Interface*). Any North system user connecting with an obsolete 208B modem should have already replaced it with a Hayes-compatible modem. The phone numbers being discontinued are (301) 443-5100 and (301) 443-7475.

New Telephone Numbers

As soon as you have a new Hayes-compatible modem, you can start connecting to the North system using the new numbers:

RJE service (301) 480-0744
SNA dialup (301) 480-0748

If you have any questions, please call TASC.

CONNECT:Direct Is Now on Titan

CONNECT:Direct provides data transfer capabilities between computing systems in a robust manner and is now available on Titan. Since CONNECT**:**Direct also exists on the OS/390 North and South systems, a different naming convention is needed to distinguish this facility on Titan. As North users of CONNECT**:**Direct move their applications to Titan, they will need to make some changes.

The following North system CONNECT**:**Direct DD statements will need to be changed:

- `//DMNETMAP  DD DISP=SHR,DSN=`*`PCC.NDM32.NETMAP`*

  becomes on Titan

  `//DMNETMAP  DD DISP=SHR,DSN=`***`NIH.NDM.NETMAP`***

- `//DMPUBLIB  DD SP=SHR,DSN=`*`PCCSYS.NDM.PROCESS.LIB`*

  becomes on Titan

  `//DMPUBLIB  DD DISP=SHR,DSN=`***`NIH.NDM.PROCESS`***

- `//DMMSGFIL  DD DISP=SHR,DSN=`*`PCC.NDM32.MSG`*

  becomes on Titan

  `//DMMSGFIL  DD DISP=SHR,DSN=`***`NIH.NDM.MSG`***

There is no need for a STEPLIB statement.

New Node Names and IDs on Titan

Remote users who transmit data to applications via CONNECT:Direct will also be affected when these applications move to Titan. They will need to make changes in their SNODE specification, as well as have their VTAM administrators make changes to the VTAM definitions and CONNECT:Direct netmap at their site.

The new CONNECT:Direct node name is NIH.STD.NDM. The APPLid is NIH4NDM, and the NETid is NIHNET.

Administrators of remote systems should add the above CONNECT:Direct node definitions to their net map files and also add the VTAM definition to their VTAM tables. While these additions should be made as soon as is convenient, changes to the SNODE specification should not be made until the application actually moves from the North system to Titan. We do suggest, however, that a test transfer be done when all system changes have been made.

This information is also available on the Titan Web page [http://silk.nih.gov/silk/titan].

South System—Some Labels to Be Discontinued July 1

The NIH Computer Center has for many years provided OS/390 users with a large variety of "pin-feed" labels for impact printing—including mailing labels, labels on folders, and labels on medicine bottles.

Review of label usage has revealed some labels for which there is little or no demand. Rather than continuing to maintain a large inventory of unused labels, CIT will discontinue the following labels on July 1, 2001:

L2M1	2 3/4	x	15/16
L2L1	2 3/4	x	1 7/16
L3L1	3 1/2	x	1 7/16
L4S1	4	x	7/16
L4M1	4	x	15/16
L5M1	5	x	15/16

If the label size you use is being discontinued, you may purchase your own labels and submit them to the Computer Center as a special form. The *NIH Computer Center User's Guide* section on the "Printing and Graphics Services" provides information on submitting user-supplied forms.

The following labels will remain available:

L2S1	2 3/4	x	7/16
L3S1	3 1/2	x	7/16
L3M1	3 1/2	x	15/16
L4L1	4	x	1 7/16
L5S1	5	x	7/16
L5L1	5	x	1 7/16

CIT Training—Online Learning Is Now Available

The CIT Training Program is in the midst of the spring term, which lasts through the end of May. Although enrollments continue to be strong, spaces are available in many courses. If a requested class is full, a student will be given the first opportunity in the next term.

A number of exciting classroom courses are about to become available, including "Macintosh OS X—What's New for Users." Two sessions in April will provide an opportunity to learn about the newest Macintosh operating system.

Classes are being offered to introduce employees to the various information technologies available at NIH. "Video Services at NIH" covers topics from videoconferencing to webcasting. "The NIH Intranet Web Portal: An Overview of Technology and Content" will show employees how to modify their own "My NIH," pages as well as join communities of interest. Finally, "Understanding Your CIT Bill" can provide insight into the billing process for CIT services.

Microsoft Corporation has also volunteered to teach a number of courses, including the upcoming "Using Microsoft SQL 2000 for Data Mining" and "Microsoft Project 2000 Overview." These brief seminars provide a basic introduction to these software products.

FasTrac Training Beginning April 3

When you need training sooner than one of our classroom courses can provide, you have another option—FasTrac online training—available at anytime and anywhere.

After a successful pilot test, the FasTrac online training program—covering the full range of IT subjects—will be available to NIH employees beginning on April 3. The more than 1000 online FasTrac courses offer employees an opportunity to pursue education (earn college credit), gain certification (official study guides for Microsoft, Netscape, Novell, and Oracle exams), or refresh skills.

FasTrac accounts are available for any NIH employee for $60, which provides an individual with unlimited access to all 1000+ courses for 12 months. CIT is able to offer this low price because many government agencies are participating in the purchase of FacTrac. You can purchase an account online via NIH Integrated Training System (NIHITS) [http://trainingcenter.od.nih.gov/nihitsIIinfo.htm].

If you want to know more about FasTrac, the CIT training Web site [http://training.cit.nih.gov] has a link to "FasTrac Online Courses." Or if you want technical assistance in getting started with FasTrac, attend the CIT class, "FasTrac Overview," to receive hands-on help in signing on and trying out a course.

Assistance

As always, classes are available free of charge to NIH employees and other users of NIH computing facilities. The courses are offered to help individuals become more efficient and effective in using computing, networking, and information systems. You can obtain full course information or register for classes online [http://training.cit.nih.gov].
Of course, you are always welcome to ask the training staff at TASC about course registration.

Training Calendar—Spring 2001

April

823I	Creating Presentations with PowerPoint 2000	4/23
672	Using FileMaker Pro on the Web	4/24
750	Expediting Your Request for Telephone Services at the NIH	4/24
877	BRMUG - Macintosh Users Group	4/24
841C	Meet Your PC - What's Inside the Box	4/24
392	Video Services at NIH	4/25
359	Wireless Communication	4/25
160C	Budget Tracking	4/25
346	KMIG - Knowledge Management Interest Group	4/25
990	Genetics Computer Group (GCG) Sequence Analysis	4/25 – 4/27
911	Designing Effective Scientific Slides	4/26
985	Sequence Alignment and Modeling System, a Tutorial	4/26
180C	NIH DW*Query:* Budget & Finance	4/26
903B	Avoiding Pitfalls in Statistical Analysis I	4/27
831B	Outlook 2000 Tips and Tricks	4/30
220	Producing Tables with SAS	4/30 – 5/1

May

673	FileMaker Pro on the Web - Real World Examples	5/1
310	Using Microsoft SQL 2000 for Data Mining	5/1
308	Using SQL to Retrieve DB2 and Oracle Data	5/2 – 5/3
186B	NIH DW*Query:* Travel	5/4
240	Producing Graphs with SAS	5/7 - 5/8
344	Contract Performance System Update	5/7
366	An Introduction to TCP/IP	5/8
637E	Introduction to HTML	5/8
675	WIG - World Wide Web Interest Group	5/8
855	Microsoft Project 2000 Overview	5/9
182B	NIH DW*Query:* Property Management	5/9
400C	Fundamentals of Unix	5/9 – 5/11
199	NIH DW*Query:* Advanced Query and Reporting Workshop	5/10
234B	Basic SPSS	5/10 – 5/11
567	Perl I: Fundamentals of Perl	5/10 - 5/17
160D	Budget Tracking	5/14
170C	NIH DWA*nalyze*: Budget & Finance	5/14
184B	NIH DW*Query:* Procurement & Market Requisitions	5/15
212	SAS Programming Fundamentals I	5/15 – 5/16
991	Advanced Sequence Analysis Using the Wisconsin Package (GCG)	5/17 – 5/18
223	Producing Reports with SAS	5/17 – 5/18

707	Understanding Your CIT Bill	5/21
180D	NIH DW*Query:* Budget & Finance	5/21
865C	Introduction to Programming	5/21- 5/25
824C	Advanced Presentations with PowerPoint 2000	5/22
877	BRMUG - Macintosh Users Group	5/22
213	SAS Programming Fundamentals II	5/22 – 5/23
372	Using Secure Email in the Exchange Messaging Environment	5/23
637F	Introduction to HTML	5/23
346	KMIG - Knowledge Management Interest Group	5/23
568	Perl II: Regular Expressions in Perl	5/24
708	Account Sponsor Orientation	5/24
377	Parachute for Windows 98/95	5/24
193C	NIH DW*Query:* Human Resources	5/24
904B	Avoiding Pitfalls in Statistical Analysis II	5/25
724	Security Auditor's Research Assistant (SARA) Basics	5/30
373B	LISTSERV Electronic Mailing Lists: Hands-On Workshop for General Users	5/30
374B	LISTSERV Electronic Mailing Lists: Hands-On Workshop for List Owners	5/30
569	Perl III: Programming with Perl Objects	5/30, 6/1, 6/6, 6/8
357	The NIH Intranet Web Portal: An Overview of Technology and Content	5/31
343B	Contractor Performance System for New Users	5/31

June

241	Creating Maps with SAS	6/1
669B	Introduction to JavaScript Programming	6/1
400D	Fundamentals of Unix	6/6 – 6/8

Dates to Remember

Now . . .

- *Interface* subscribers now receive online publication, *Interface Online*.
- Free processing on Titan has been extended through May. @
- A new space management tool, FacilityCenter, is available.
- NIH Data Warehouse has new tools and improved data access.
- Web Sponsor has been improved. *
- New version of QWS3270 Plus is now available.
- Support for Bell 208B modems has been phased out. §
- CONNECT:Direct is now on Titan. @
- FasTrac online training is now available to NIH employees.

Soon . . .

April 30	New version of NBARS software will be available for Windows users.

Later in 2001 . . .

July 1	Six little-used, "pin-hole" labels will be discontinued. * @
October 1	"Off-Hours" discount will be reduced in fiscal year 2002. *
November 2	Disaster recovery test at hot site. * § @ #

***** OS/390 South System
§ OS/390 North System
@ OS/390 Titan System
# Enterprise Open System

NIH COMPUTER CENTER Hardware and Software

ENTERPRISE SYSTEMS

OS/390 (MVS) SYSTEMS

OS/390 Systems Hardware

The OS/390 facility is an integrated multiprocessor complex, interconnected by shared disk storage. There are two IBM 9672 model R44 systems, each with 4 processors. Each system has a gigabyte (GB) of memory and a complement of several hundred peripheral devices.

The peripheral devices include:

- ILK 3762 Ethernet interface for TCP/IP
- 9392-B13 disk drives (RAMAC)
- 3480 cartridge tape drives (18 track, 38,000 BPI)
- 3490E cartridge tape drives (36 track, 38,000 BPI)
- 3494 automated tape library (ATL)
- 3422 tape drives (6250/1600 BPI)
- STK 9310 (Powderhorn) ATL
- STK 9490 (Timberline) cartridge tape drives (36 track, 38,000 BPI)
- Wolfcreek ATL
- STK virtual tape storage subsystem (VTSS)
- STK 9840 ultra high performance magnetic tape drives
- 3900 laser printing subsystems
- 3160 cut-sheet laser printers
- 3835 impact printers
- 4245 impact printers
- 3172 channel to Ethernet interface
- 3745 communications controllers
- 5665 NCR communications controllers

Peripherals are available to all processors, providing nonidle redundancy and minimal disruption of service in the event of any subsystem or component failure.

IBM 9672-R44 Serial Numbers

CP0=044625, CP1=144625, CP2=244625, CP3=344625
CP0=044626, CP1=144626, CP2=244626, CP3=344626

OS/390 Systems Software

N = North System, S = South System, T=Titan

OS/390 Operating System
The IBM OS/390 Operating System using job control language as the user interface and the Job Entry Subsystem Version 2 (JES2), (N, S, T). A Unix-based component of OS/390 is installed (S, T).

SILK Web Facilities
Customized, public, and secure servers available for general use. SILK provides online services that include: directory and account information, management functions, RACF processing, data set listing, batch job submission, and e-mail through a Web interface (N, S).

Interactive Systems
CICS (N, T), ISPF (N, S, T), TSO (N, S, T), NIH Extended WYLBUR (S), and ACS WYLBUR (N, T)

Databases
ADABAS (N, T), Model 204 (N, T), DB2 (S), and IMS (S)

Language Processors
APL (N), COBOL/370 (N, S, T), FORTRAN 77 (N), VS FORTRAN (S, T), PL/I (N), PL/I for OS and VM (S, T), REXX (S, T), High Level Assembler (N, S, T)

Graphics Systems
SAS/GRAPH (N, T)

Scientific Statistical Systems
SAS (N, S, T), SPSS (N, S, T)

Simulations Systems
Dynamic Model II (DYNAMO II) (N), General Purpose Simulation System (GPSS) (N)

Other
File management systems - VISION:Builder (N, S, T), VISION:Report (S, T), BookMaster document markup system (N), BookManager online documentation system (N, T), CONNECT:Direct for online financial transactions (N, S).

Connectivity Products for Access to the OS/390 Systems
Terminal emulation and full connectivity software for PC and Macintosh clients for telnet and dialup connections. Supported software packages include MS-Kermit (S), QWS3270 PLUS (N, S, T), NetTerm (TNVT) (S), and WS_FTP Pro (N, S, T).

NIH COMPUTER CENTER Hardware and Software

ENTERPRISE OPEN SYSTEMS (EOS)

Unix System Hardware

Compaq AlphaServer GS60
4 CPUs (500 MHz EV6)
4 GB RAM

Compaq/Digital AlphaServer 8400
4 CPUs (440 MHz)
4 GB RAM

Numerous Compaq/Digital AlphaServers: 1000s, 1200s, 2100s, and a 4100

Sun Enterprise 250 servers

Unix System Software

Tru64 UNIX Operating System

Sun Solaris Operating System

Installed Software (commercial)
DEC COBOL
DEC C
DEC C++
Netscape Enterprise Server
Oracle Web Application Server

Database
Oracle

WINDOWS NT/2000 APPLICATION SERVERS

Windows NT and Windows 2000 applications can be hosted on a series of servers that are carefully managed and monitored by CIT on a 7x24 basis. These are Compaq Enterprise class servers and storage arrays. This facility provides a computing environment that has been proven suitable for mission-critical, enterprise-wide applications.

Hardware

Compaq DL360
Dual- Intel Pentium III 800MHz Processors
512MB SDRAM expandable to 4 GB
Storage: 2 Internal Drives - 9.1, 18.2, or 36GB - large storage arrays available
Size: 1U

Compaq DL380
Dual - Intel Pentium III 933MHz Processors
512MB SDRAM expandable to 4 GB
Storage: 4 - 6 Internal Drives - 9.1, 18.2, or 36GB - large storage arrays available
Size: 3U

Compaq DL580
Quad - Intel Pentium III 700MHz/2MB Xeon Processors
1GB SDRAM expandable to 16 GB
Storage: 4 Internal Drives - 9.1, 18.2, or 36GB - large storage arrays available
Size: 4U

Compaq 8500
An 8 way (8 processor) - Intel Pentium III 700MHz/2MB Xeon Processors
2GB SDRAM expandable to 16 GB
Storage: 4 Internal Drives - 9.1, 18.2, or 36GB - large storage arrays available
Size: 7U

Windows Application Software

NT 4.0 Server is our standard operating system, with Windows 2000 service in the near future.

Major components of the Microsoft BackOffice Suite of applications, with services such as Terminal Server, SQL Server, Exchange, and IIS, are supported in an enterprise-wide environment.

Other user specified and support software including:

NBARS—automatic backup/recovery services for distributed file servers

OTHER SERVICES

Oracle server software for use on several platforms with concurrent Oracle usage rights.

Site license agreements for distributing SAS for PC clients.

Central Email Service (CES) provides e-mail services for the NIH community.

NBARS, an OS/390-based service using TSM software, provides backup and recovery for distributed data.

The Disaster Recovery Program provides disaster recovery facilities and services for "critical"

applications that run on the OS/390 systems and the EOS system.

NIH COMPUTER CENTER Hardware and Software

HELIX SYSTEMS

The NIH Helix Systems comprise several systems configured in a unified scientific environment. The front-end SGI Origin 2000 system (with the network name helix) is used for general purpose tasks, such as reading mail, transferring files, accessing the World Wide Web through Netscape, and certain scientific applications. Additional systems offer special computation capabilities that enable compute-intensive scientific applications to run faster or more efficiently. An SGI PowerChallenge system (with the network name churn) augments helix by running specific scientific applications or user programs that require long execution times. The NIH Biowulf Cluster (with the network name biowulf) is a Beowulf parallel processing system designed and built by members of the Helix Systems staff, running the Redhat Linux operating system. A 32-processor SGI Origin 2000 system (with the network name galaxy) and a 16-processor SGI Origin 2000 system (with the network name quasar) are designed for the development and execution of high performance parallel applications. The Origin 2000 systems are jointly funded by the Division of Computer System Services (DCSS) and the Division of Computational Bioscience (DCB).

Helix Systems Software

In addition to the standard Unix tools for software development, text formatting, and network communications, software packages include:

Scientific Applications

- GCG Sequence Analysis Package an extensive package of programs for nucleic acid and protein sequence analysis
- Quest: interactive database search program for accessing the Cambridge Structural Database
- BLAST: basic local alignment search tool for nucleic acid and protein sequences
- Lrna: performs suboptimal folding on linear RNA sequences
- CHARMm: models dynamic behavior and characteristics of molecular systems
- Gaussian: performs semiempirical and *ab initio* molecular orbital calculations
- Mathematica, MATLAB S-PLUS: interactive systems for numerical analysis and graphics featuring, respectively, symbolic manipulation, matrix computation, and statistical analysis
- AVS: interactive tool for scientific visualization of images, volume data and geometrically defined objects
- Interactive Data Language (IDL): an interactive program for analyzing and visualizing data
- Fastlink: fast-executing computationally intensive general pedigree programs from Linkage
- Fasta3: uses the Pearson-Lipman algorithm to compare a protein or nucleotide sequence against a sequence database (includes fasta, tfasta, tfastx, fastx, ssearch)
- ClustalW: general-purpose multiple alignment program for DNA or protein sequences
- Porpoise: alert service for new scientific literature that searches the weekly updates of the Science Citation Index Expanded and Social Sciences Citation Index databases
- WHALES: automatic alert service for new sequences in the major nucleotide and protein databases

Biological Databases

GenBank: nucleic acid sequences
PIR: protein sequences
GCG: sequence databases for the GCG package
PDB: protein structures

- Cambridge Structural Database: diffraction data from small organic and organometallic molecules

Programming Languages

C, FORTRAN, Lisp , and C++

Subroutine Libraries

IMSL: mathematical and statistical routines
FIGARO: 2- and 3-d interactive graphics routines

Programming Tools

Static analyzer, debugger, and performance analyzer tools

Network Services

- mail, pine, and Emacs rmail: electronic mail readers
- ftp: Internet file transfer utility
- Kermit and zmodem: file transfer via modem
- X Window System: supports common X clients such as *xterm*, and S-PLUS, Mathematica, MATLAB, and AVS applications
- Netscape and lynx: easy access from NIH information servers and information servers worldwide
- tin: newsgroup reader
- WebTermX: Web browser plug-in that lets Windows PCs run the X Window System

Editors

vi, edt, and GNU Emacs: full-screen editors
ed and ex: line editors

Helix Systems Hardware

The SGI Origin 2000 system (helix) consists of 8 processors based on the MIPS R12000 chip. Each CPU has shared access to 2 GB of memory.

The SGI PowerChallenge L system (churn) consists of 12 processors based on the MIPS R10000 chip. Each CPU has shared access to 2 GB of memory.

The 32-processor Origin (galaxy) utilizes MIPS R10000 processors and has a total of 8 GB of system memory. The 16-processor Origin (quasar) utilizes MIPS R12000 processors and has a total of 4 GB of system memory. On both galaxy and quasar the memory appears as a global shared memory to the programmer. Note that the memory in fact is distributed across 16 "nodes" on galaxy and 8 "nodes" on quasar. The technology used to

make this distributed memory appear equally accessible from any processor is called ccNUMA (cache coherent non-uniform memory access).

The Biowulf cluster consists of 112 dual-processor Pentium 450 MHz and 550 MHz nodes, most with 256 MB of memory and 8 GB of disk. Each node is connected to a fast Ethernet switch (100 Mb/s). For applications that can take

advantage of more memory and higher network speeds, some nodes contain as much as 1 GB of memory and others are connected to a gigabit speed network.

The Helix systems are restricted to NIH use.

ALW SYSTEM

The Advanced Laboratory Workstation (ALW) System is a general-purpose, open, distributed computing system. All Advanced Laboratory Workstations are interconnected by the NIH campus-wide network, which they use to share resources and access services. The AFS file system provides distributed file services.

ALW System Hardware

Client workstations
Sun SPARCstations
Silicon Graphics

File Servers
5 servers with combined storage of over 300 GB

ALW Application Software

Genomic sequence analysis packages
Refer to http://www-bimas.cit.nih.gov/

Image processing
Analyze - medical image processing
Khoros - abstract visual language
MEDX - medical imaging processing

Mathematics packages
Mathematica
Matlab

Molecular modeling software
Refer to http://cmm.info.nih.gov/modeling

Statistical packages
Prophet
SAS
S-PLUS

Office automation applications
StarOffice - integrated spreadsheet, word processing and graphics
FrameMaker - desktop publishing
WordPerfect - word processing

Other software
Emacs - text editor
Gnu software and development tools
Internet Explorer - web browser
Netscape - web browser
PTR - problem reporting system for ALW

NETWORKS

NIHnet
a high-speed network backbone that interconnects NIH LANs, the Computer Center central servers? enterprise (OS/390, Open Systems, and Windows NT/2000 Application Servers) and scientific (Helix and ALW Systems)? and the Internet. The LAN protocols that are supported for NIHnet connectivity include TCP/IP, AppleTalk, IPX, and DECnet. Users on NIHnet LANs with these protocols are provided with remote login and high-speed access, fast file transfer, and local and worldwide electronic mail connections. Dialup access to NIHnet is available through Parachute.

Internet
an international collection of networks, supported by major research institutions, that communicate with each other using TCP/IP protocols. The Internet offers file transfer, remote login (telnet) electronic mail, and World Wide Web connections.

NIHnet Mail Gateway
a set of gateways, allowing the exchange of electronic mail among users of all mail systems supported at NIH and between NIH users and other users on the Internet. (Note: not all mail systems support the exchange of attachments)..

Computer Services Telephone Directory

Service	Office	Bldg/Rm	Telephone (301)
ENTERPRISE SYSTEMS (OS/390), Unix, Windows NT/2000 Servers)			
Database Support	Database Systems Branch	12/2200	496-9158
IMS Support	Database Systems Branch	12/2200	496-6244
Help Desk	TASC	12A/1011	594-6248
New Applications	Application Services Branch	12A/4011	496-5524
Operating Schedule – OS/390 (recording)	--	--	402-2211
Security Investigations and Assistance	TASC	12A/1011	594-6248
Fax Number	--	--	496-6905
Security Policy	Application Services Branch	12A/4011	496-5524
Tape Library	Systems Operations Mgmt. Branch	12/1100	496-6021
SCIENTIFIC SYSTEMS (Helix and Advanced Laboratory Workstation)			
Help Desk - ALW**	TASC	12A/1011	594-6248
Help Desk - Helix	TASC	12A/1011	594-6248
Operating Schedule – Helix, EOS (recording)	--	--	402-2212
Operator - Helix	--	12/2200	496-6755
CONNECTIVITY SERVICES (E-mail, Networks, File Transfer, Access to Enterprise and Scientific Systems)			
Help Desk	TASC	12A/1011	594-6248
GENERAL SERVICES			
Accounts/Billing, Registration	TASC	12A/1011	594-6248
ADB Support**	TASC	12A/1011	594-6248
Application Programming**	Division of Enterprise and Custom Applications	Federal Bldg.	594-6248
Computer Center General Policy	Director, Division of Computer System Services	12A/4039	496-5381
Computer Center Security Policy	Chief, Application Services Branch	12A/4011	496-5524
DECnet**	Div. of Enterprise and Custom Applications	31/3B27	402-1811
Disaster Recovery Process	Disaster Recovery Coordinator	12A/4033	496-5826
Documentation/Publications	Technical Information Office	12A/1011	594-6248
Output Distribution and Foreign Tape Handling			
NIH Campus	Output Distribution	12A/1000	496-6183
Parklawn Building	Output Distribution	2B70	443-4253
Public Information on CIT	Information Office, CIT	12A/4063	496-6203
Special Tape Handling	Output Distribution	12A/1000	496-6183
Statistical Packages	TASC	12A/1011	594-6248
TDD Line for Hearing Impaired	TASC	12A/1011	496-8294
Telecommunications Problems	TASC	12A/1011	594-6248
Training	TASC	12A/1011	594-6248

*Non-NIH number; requires "9" prefix. **Services available to NIH employees only.

World Wide Web access to CIT through http://cit.nih.gov

TASC (Technical Assistance and Support Center) is open 7:30 A.M. - 5:00 P.M.

Telephone assistance is available 7:00 A.M. – 6:00 P.M.

Online Services Directory

Service	Internet Host Name	Dialup Access (301)	Status (301)
OS/390 (MVS) - South System			
WYLBUR (network)	**WYLBUR.CU.NIH.GOV**	402-2221	402-2211
2400-19200 bps (dialup)		*800-358-2221	
TSO (network)	**TSO.CU.NIH.GOV**	402-2223	402-2211
2400-19200 bps (dialup)		*800-358-2223	
TSO, DB2, IMS (Full-Screen 3270) (network)	**TN3270.CU.NIH.GOV**		402-2211
2400-9600 bps (dialup)		402-2227	
IBM Batch (RJE Batch)	**N/A**		402-2211
2400-9600 bps		402-2228	
Network File Transfer	**FTP.CU.NIH.GOV**	N/A	N/A
OS/390 (MVS) - North System	**AD.CU.NIH.GOV**		402-2211
EBCDIC			
RJE Work Station			
2400-9600 bps		480-0744	402-2211
SNA/SDLC/NRZI			
2400-9600 bps		480-0748	402-2211
OS/390 (MVS) - Titan			
(Standard System)			
TSO (Full-Screen 3270)	**TN3270.TITAN.NIH.GOV**	N/A	402-2211
Network File Transfer	**FTP.TITAN.NIH.GOV**	N/A	402-2211
Enterprise Open Systems (Unix)			
Compaq/Digital AlphaServers	**EOS.NIH.GOV**	N/A	402-2212
Helix Systems			
SGI Challenge System	**HELIX.NIH.GOV**	402-2222	402-2212
2400-33600 bps		*800-358-2022	
NIH Biowulf Cluster	**BIOWULF.NIH.GOV**	N/A	402-2212
NIHnet access through Parachute	**N/A**	402-6830 *800-827-0124	594-6248

NOTES

- **To access 402, 435, 443, 480, 496, 594, or 827 numbers from other 402, 435, 443, 480, 496, 594, or 827 numbers, use only the last 5 digits.**
- N/A: Not Applicable
- All telephone numbers are accessible through FTS.

* These 800 numbers should be used only by persons who do not have access to FTS2001.

Popular Web Sites

Service	Web Address
National Institutes of Health	http://www.nih.gov
Center for Information Technology	http://cit.nih.gov
NIH Data Warehouse	http://datatown.nih.gov
Molecular Modeling	http://cmm.info.nih.gov/modeling
PUBnet	http://pubnet.nih.gov
NIH Computer Center Systems	http://datacenter.cit.nih.gov
ALW	http://www.alw.nih.gov
Helix Account Information NIH Biowulf Cluster	http://helix.nih.gov http://helix.nih.gov/register.html http://biowulf.nih.gov
Enterprise *OS/390 Titan System* *OS/390 South* Problem Reporting RACF SILK Web DB2 and Oracle *OS/390 North* RACF SILK Web Coordinator *Enterprise Open System (EOS)* *NT Applications Servers*	http://datacenter.cit.nih.gov/enterprise.html http://silk.nih.gov/silk/titan http://datacenter.cit.nih.gov/mvs http://datacenter.cit.nih.gov/srt http://silk.nih.gov/racf http://silk.nih.gov http://silk.nih.gov/dbtech http://datacenter.cit.nih.gov/mvs http://silkad.nih.gov/racf http://silkad.nih.gov http://silkad.nih.gov/coordinator http://datacenter.cit.nih.gov/eos http://datacenter.cit.nih.gov/nt
NIH Backup and Recovery Service	http://silk.nih.gov/silk/nbars
Oracle License Information Oracle Database Servers	http://silk.nih.gov/silk/oracle http://silk.nih.gov/silk/citoracle
Publications	http://publications.cit.nih.gov
Web Sponsor Account Information	http://silk.nih.gov/sponsor/homepage
Customer Services	
Accounts	http://dcs.cit.nih.gov/accounts/ca.htm
Computer Training	http://training.cit.nih.gov
TASC	http://dcs.cit.nih.gov/tasc/tasc.htm
Network Systems	
LISTSERV	http://list.nih.gov
NIHnet	http://www.net.nih.gov
Parachute	http://parachute.nih.gov

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OD/ORS NIH/OD/Office of Research Services
DCSDivision of Customer Support
DCSS Division of Computer System Services
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